of the connector [a] each bus conductor of the first group is positioned adjacent to at least one of the bus conductors of the second group [that is positioned adjacent to yet another bus conductor of the first group, and so on for each of the plurality of bus conductors], the transmission line impedance of any pair of adjacent bus conductors, one being chosen from the first group and the other being chosen from the second group, being determinable, wherein each of the bus conductors of the first group are adapted to be electrically coupled to respective signal paths associated with a circuit board on which the connector is to be mounted through only two electrical contact elements regardless of the number of compliant contact regions, the two electrical contact elements of each bus conductor of the first group being arranged so that each is disposed substantially near an end of its respective bus conductor, and the bus conductors of the second group each being adapted to be electrically coupled to an electrical ground plane associated with the circuit board through a number of electrical contact elements disposed along their respective lengths, the number of electrical contact elements being irrespective of the number of compliant contact regions.

18. A socket for providing an electrical interface between a substrate and a plurality of removable electronic components, the socket comprising:

a socket housing adapted to receive the plurality of removable electronic components; and

a first signal conductor extending through the socket housing and having a predetermined impedance and first and second ends adapted to couple respectively to first and second traces disposed on the substrate such that the first signal conductor forms a signal transmission line between the first and second traces, the first signal conductor further having a plurality of electrical

contact regions to couple to counterpart electrical contact regions disposed on the plurality of removable electronic components.

19. The socket of claim 18 further comprising additional signal conductors extending through the socket housing parallel to the first signal conductor, the additional signal conductors each having the predetermined impedance and first and second ends adapted to couple to a respective additional pair of traces on the substrate such that each additional signal conductor forms a signal transmission line between the additional pair of traces, each additional signal conductor further having a plurality of electrical contact regions to couple to additional counterpart electrical contact regions disposed on the plurality of removable electronic components, the first signal conductor and the additional signal conductors forming a signaling bus that extends through the socket housing.

20. The socket of claim 18 further comprising a first ground conductor extending through the socket housing and disposed adjacent the first signal conductor, the first ground conductor having a plurality of contact elements disposed along its length to couple the first ground conductor to a ground plane of the substrate.

21. The socket of claim 20 further comprising:

additional signal conductors extending through the socket housing in a direction parallel to the first signal conductor, the additional signal conductors each having the predetermined impedance and first and second ends adapted to couple to a respective additional pair of traces on the substrate such that each additional signal conductor forms a signal transmission line between the respective additional pair of distinct traces, each additional signal conductor further having a plurality of electrical contact regions to couple respectively to

additional counterpart electrical contact regions disposed on the plurality of removable electronic components, the first signal conductor and the additional signal conductors forming a signaling bus that extends through the socket housing;

additional ground conductors extending through the socket housing parallel to the first ground conductor, each of the additional ground conductors having a plurality of contact elements located along its length to couple to a ground plane of the substrate; and

wherein signal conductors, including the first signal conductor and the additional signal conductors, and ground conductors, including the first ground conductor and the additional ground conductor, are disposed within the socket housing such that each of the signal conductors is adjacent a respective one of the ground conductors.

22. The socket of claim 21 wherein each one of the signal conductors is disposed adjacent another one of the signal conductors.

23. The socket of claim 21 wherein the signal conductors and the ground conductors are disposed within the socket housing such that each of signal conductor of a subset of the signal conductors is positioned between a respective pair of the ground conductors.

24. The socket of claim 21 wherein the signal conductors and ground conductors are disposed within the socket housing such that the contact regions of each signal conductor oppose the contact regions of the adjacent ground conductor.

25. The socket of claim 21 wherein each signal conductor and adjacent ground conductor form a signal-ground conductor pair having opposing signal and ground contact regions, each pair of opposing signal and ground contact regions being positioned to contact respective electrical contact elements disposed on opposing faces of a respective one of the removable electronic components.

26. The socket of claim 25 wherein the contact regions of the signal conductors of the signal-ground conductor pairs are positioned to alternately contact each of the opposing faces of the respective one of the removable electronic components.

27. The socket of claim 26 wherein the contact regions of the ground conductors of the signal-ground conductor pairs are positioned to alternately contact each of the opposing faces of the respective one of the removable electronic components.

28. The socket of claim 20 further comprising a dielectric spacer disposed between the first signal conductor and the first ground conductor.

29. The socket of claim 28 wherein the width of the dielectric spacer is selected to achieve the predetermined impedance of the first signal conductor.

30. The socket of claim 28 wherein the dielectric spacer is bonded to at least one of the first ground conductor and the first signal conductor.

31. The socket of claim 20 wherein the first signal conductor and the first ground conductor are formed by respective conductive plates.

32. The socket of claim 18 further comprising an elastomer disposed underneath each of the plurality of electrical contact regions of the first signal conductor.

33. The socket of claim 18 further comprising:

additional signal conductors extending through the socket housing parallel to the first signal conductor, the additional signal conductors each having the predetermined impedance and first and second ends adapted to couple to a respective additional pair of traces on the substrate such that each additional signal conductor forms a signal transmission line between the additional pair of traces, each additional signal conductor further having a plurality of electrical contact regions to couple to additional counterpart electrical contact regions on the plurality of removable electronic components; and

a plurality of elastomers extending through the socket housing in a direction transverse to the first signal conductor and the additional signal conductors, each of the elastomers extending beneath at least one electrical contact region of each of the additional signal conductors and beneath least one electrical contact region of the first signal conductor.

34. The socket of claim 29 wherein each of the elastomers is formed from a dielectric material to maintain electrical isolation between the signal conductors, including the first signal conductor and the additional signal conductors.

35. The socket of claim 18 wherein the predetermined impedance of the first signal conductor is selected to match a termination impedance on the substrate.

36. The socket of claim 35 wherein the termination impedance on the substrate is a resistor coupled to the second trace.

37. The socket of claim 18 wherein each of the removable electronic components is a daughter card and the socket housing is adapted to receive a plurality of the daughter cards.

38. The socket of claim 18 wherein each of the removable electronic components is an integrated circuit device and the socket housing is adapted to receive a plurality of the integrated circuit devices.

39. The socket of claim 18 wherein the first and second ends of the first signal conductor include posts adapted to fit into respective holes in the substrate.

40. An electrical connector comprising:

a connector housing having a plurality of slots to receive removable electronic components;

a plurality of signal conductors that extend through the connector housing to form a signaling bus, the signal conductors including contact regions to electrically couple the removable electronic components to the signaling bus, each of the signal conductors having first and second ends to couple to respective signal traces on a substrate and having a predetermined impedance; and

a plurality of ground conductors that extend through the connector housing parallel to the signal conductors, the ground conductors each including a plurality of contact regions to electrically couple to a ground reference of the substrate, the ground conductors and signal conductors being disposed within the

connector housing such that each of the signal conductors is adjacent at least one of the ground conductors.

41. The electrical connector of claim 40 wherein the predetermined impedance is selected to match a termination impedance of the signaling bus.

42. The electrical connector of claim 41 wherein the termination impedance is formed by a plurality of resistors coupled respectively to the signal traces on the substrate.

43. The electrical connector of claim 40 wherein a dielectric spacer is positioned between each signaling conductor and adjacent ground conductor.

44. The electrical connector of claim 40 wherein each of the signal conductors forms a transmission line between the respective signal traces when coupled thereto.

45. The electrical connector of claim 40 wherein each of the signal conductors is adapted to be coupled to the substrate only at the first and second ends, and wherein each of the ground conductors includes at least three contact regions to couple to the ground reference of the substrate.

46. The electrical connector of claim 40 wherein the contact regions of the signal conductors and the contact regions of the ground conductors each extend into the slots of the connector housing to contact counterpart contact regions of the removable electronic components when the removable electronic components are inserted into the slots of the connector housing.

47. A signaling system comprising:

a substrate including a first plurality of signal conducting traces and a second plurality of signal conducting traces;

a socket mounted to the substrate and including a housing with slots formed therein, the socket further including a plurality of signal conductors that extend through the housing in a direction transverse to the slots, each signal conductor of the plurality of signal conductors having a predetermined impedance and being coupled to form a transmission line between a respective one of the first plurality of signal conducting traces on the substrate and a respective one of the second plurality of signal conducting traces on the substrate; and

a plurality of electronic components removably inserted into the slots of the socket housing, each of the electronic components including a plurality of contact regions that respectively contact the plurality of signal conductors.

48. The signaling system of claim 47 wherein each of the plurality of electronic components comprises a printed circuit board having an integrated circuit device mounted thereon.

49. The signaling system of claim 48 wherein the integrated circuit device is a semiconductor memory device.

50. The signaling system of claim 49 wherein the semiconductor memory device is a dynamic random access memory device.

51. The signaling system of claim 49 further comprising a memory controller mounted to the substrate and coupled to the first plurality of signal conducting traces, the

memory controller being adapted to transmit signals to the semiconductor memory device via the first plurality of signal conducting traces.

52. The signaling system of claim 47 wherein each of the electronic components comprises an integrated circuit device.

53. The signaling system of claim 52 wherein the integrated circuit device is a semiconductor memory device.

54. The signaling system of claim 53 wherein the semiconductor memory device is a dynamic random access memory device.

55. The signaling system of claim 53 further comprising a memory controller mounted to the substrate and coupled to the first plurality of signal conducting traces, the memory controller being adapted to transmit signals to the semiconductor memory device via the first plurality of signal conducting traces.

56. The signaling system of claim 47 further comprising a plurality of termination elements coupled respectively to the second plurality of signal conducting traces.

57. The signaling system of claim 56 wherein the predetermined impedance of each signal conductor of the plurality of signal conductors is selected to match the impedance of a respective one of the termination elements.

58. The signaling system of claim 47 wherein the socket further includes a plurality of ground conductors that extend through the housing in a direction transverse to the slots in the housing, each of the plurality of ground conductors including a plurality of contact regions to contact the plurality of electronic components.

59. The signaling system of claim 58 wherein each of the plurality of ground conductors is disposed within the housing adjacent at least one of the plurality of signal conductors, the plurality of ground conductors and signal conductors forming a plurality of signal-ground conductor pairs.

60. The signaling system of claim 59 wherein each of the signal-ground conductor pairs contacts a first electrical component of the plurality of electrical components on opposing faces of the first electrical component.

61. The signaling system of claim 60 wherein each of the signal-ground conductor pairs are disposed within the socket housing such that the plurality of signal conductors alternately contact a first face and a second face of the opposing faces of the first component.

62. The signaling system of claim 61 wherein each of the signal-ground conductor pairs are disposed within the socket housing such that the plurality of ground conductors alternately contact the first face and the second face of the opposing faces of the first component.